Time to Start Preparing for White Mold Management in Soybean

Damon L. Smith, Extension Field Crops Pathologist, University of Wisconsin-Madison, Jaime Willbur, Graduate Research Assistant, University of Wisconsin-Madison

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While many struggled to plant soybeans due to extremely wet weather this season, many fields we have observed are looking quite good. Soybeans planted in early May in the southwest portion of Wisconsin, may be flowering, or approaching the flowering growth stage. The flowering growth stages are a critical time to manage white mold, in-season. You can visit my previous posts dealing with white mold and favorable conditions, or view a fact sheet or video on the subject.

As you probably know, timing in-season fungicide sprays at the correct time during the soybean bloom period can be extremely difficult. To help solve this decision-making issue, a model was developed at the University of Wisconsin-Madison in conjunction with Michigan State University and Iowa State University to identify at-risk regions which have been experiencing weather favorable for the development of white mold apothecia. This model predicts when apothecia will be present in the field using combinations of 30-day averages of maximum temperature, relative humidity, and wind speed. Using virtually available weather data, predictions can be made in most soybean growing regions. Based on these predictions, a map is generated under three scenarios (non-irrigated soybeans, soybeans planted on 15 row-spacing and irrigated, or soybeans planted on 30 row-spacing and irrigated). The maps are colored to show the likelihood of apothecial presence within a region. White areas indicate the model is inactive and risk of apothecia in the field is likely low. Gray areas indicate that apothecia might be present, but likelihood of apothecial presence is less than 5%. Blue indicates a low risk (5 to <15% chance), yellow a moderate risk (15 to <30% chance), and red areas indicate a high risk (30% or higher chance). Model predictions must be combined with soybean growth stage and canopy characteristics to aid in timing of fungicide sprays. If the model is predicting high risk (red) in your area for your planting scenario, the soybeans are flowering, and the canopy is somewhat
No advanced registration is required and the field day is free.

Kernza is a variety of intermediate wheat grass that has gone through 6 generations of breeding and selection for seed size by The Land Institute. The goal is to develop a perennial grain that does not need to be planted annually and that can have a dual role as a resilient livestock forage that produces when other cool season forages shut down from moisture stress. Wheatgrass develops a massive root system. Field scale plots have been established at Lancaster and multiple local farms in SW Wisconsin. Lancaster ARS is one of the grazing sites. We’ll observe plots and see what yield and quality data can tell us of Kernza’s potential for grazing and grain.

Wisconsin producers are quickly adopting cover crops as a strategy to conserve soil, capture nutrients and build soil health. Cover Crops after wheat or corn silage are simple. However, our short growing season can make cover crops a challenge after corn and soybeans. The second update will review success with interseeding cover crops into V5 corn so a growing plant is already established by crop harvest and is able to grow through fall. We’ll be looking at shade tolerance and timing for successful establishment.

Rainfall simulation, Sauk County LCD. What we do on our land . . . matters. No one thinks they have soil erosion, yet the evidence is clear after each passing storm, soil moves. The rainfall simulator provides an engaging demonstration of the impact of different cropping and tillage systems on water infiltration rates and runoff. “It’s not how much rain you get, it’s how much you keep”, Kit Pharo.

Kernza, Cover Crops and Conservation Field Day at Lancaster July 19

Daniel H. Smith, Nutrient and Pest Management Program, University of Wisconsin-Madison

The Kernza, Cover Crops and Conservation Field Day will provide research updates on projects that enhance soil health and farm profits, as well as an opportunity to see a rainfall simulator.

Date: July 19 9:30-12:00

Location: Lancaster Ag Research Station, 7396 WI 35 & 81, Lancaster, WI 53813

Weed Identification Series, Waterhemp and Palmer Amaranth

Mark Renz UW Madison Associate Professor and Extension Specialist

Concern about the continued spread of waterhemp and Palmer amaranth exist in Wisconsin. While invasion of these species has been much higher in adjacent states, populations are expanding in Wisconsin and we likely will be impacted from these species in the future. However identification can be challenging as they look similar, especially when vegetative.
To assist with identification NPM/IPM (Roger Schmidt and Mimi Broeske) we have created a vegetative identification video and factsheets.

The video highlights a two-step process to differentiate waterhemp and Palmer from other common pigweed species (redroot, smooth, spiny) found in Wisconsin.

We have also created weed identification factsheets for Palmer and waterhemp to aid in further identification. You can find these at the end of this newsletter.

It is our hope that this information will assist in early detection of new populations in Wisconsin and encourage management before they are spread.

We will be encouraging reporting of pigweed populations in future weeks to better understand their distribution and what factors are driving spread. Be on the lookout for more information.

Insect Updates-July 7, 2017

Bryan Jensen, UW Extension and IPM Program

Potato Leafhoppers in alfalfa. This insect’s density has been variable this summer. Although the anticipated warm/dry weather could change that quickly. Within a limited geographical area this season, I have seen populations range from below threshold to 5X the established economic threshold. This really speaks to the need for scouting. Pay very close attention and be sure to identify (and count) potato leafhopper nymphs in the net. Nymphs are commonly found on the collar of the sweep net and are easily missed because of their size. First instars are about the size of a “period” in newsprint but have a very bright fluorescent yellowish/green coloration. The attached video might help to confirm identification. Furthermore, the need for regular field scouting is important because I have seen potato leafhopper populations crash in mid-July but may persist well past Labor day. For more information on potato leafhopper threshold and labeled insecticides please consult A3646, Pest Management in Wisconsin Field Crops.

Japanese Beetles. Not unexpectedly, Japanese Beetle adult emergence has started and likely will continue for a while. Adults cause defoliation in soybeans and clip green corn silks. Typically, damage will be clumped and isolated along field edges. The economic threshold for defoliation of reproductive soybean is 20%. People tend to overestimate defoliation. Remember % defoliation is based on the whole plant not just the affected leaves. In corn, Japanese beetle adults can clip green corn silk resulting in poor pollination. This usually is not considered economic unless an average of 3 adults are present/plant and green silks are being clipped.

Adult Japanese beetle are about ½ inch long with metallic copper-colored wing covers and a metallic green thorax and head. Six white tufts of hair are present on each side of the abdomen. Adults remain active until early September.

True Armyworms. The first generation of true armyworms seems to have wrapped up in most areas of the state. Although there have been some very intense populations in very predictable areas (corn planted after a grass cover crop, no-tilled into alfalfa and possibly corn with early grassy weeds) this next generation is not as predictable in terms of “if” and “where”. High populations of the first generation doesn’t automatically predict a significant second generation. Further complicating the issue is that it is very difficult to predict which corn fields may have second generation damage. Continue to monitor wheat and other small grains until harvest.

Wisconsin Fruit News-July 7, 2017

It’s time for another Wisconsin Fruit newsletter, featuring information about:

http://go.wisc.edu/empp63

* Follow up on the article on the reduced risk insecticide Intrepid

* Endangered Species Protection Bulletins and Methoxyfenozide-containing pesticides
Wisconsin Winter Wheat Disease Update 6-30-17

Damon Smith, Extension Field Crops Pathologist, Department of Plant Pathology, University of Wisconsin-Madison, Brian Mueller, Graduate Research Assistant, Department of Plant Pathology, University of Wisconsin-Madison

The Wisconsin Field Crops Pathology team has nearly finished all of our assessments of wheat and wheat disease for the year in Wisconsin. Winter wheat is well on its way to maturing. The few spring wheat acres we have seen have mostly completed anthesis throughout much of the state, with just a few late-planted locations still completing anthesis.

Overall, the spring 2017 wheat season can be defined mostly by the widespread presence of stripe rust (Figure 1). We have been in fields where stripe rust has caused significant widespread damage on susceptible varieties that were not treated with fungicides. We have also observed fields that either had a resistant variety, received a fungicide application, or both. These fields appear to be doing quite well and the crop will yield well. Clearly areas where we suspect that there was overwintering of the stripe rust pathogen, saw the occurrence of the epidemic very early, resulting in quick spread of stripe rust this season. We have completed rating of stripe rust in the wheat variety trials in Wisconsin and these data will be published later this year in the variety performance report. I would encourage you to study these results carefully and choose varieties that performed well in your area and had low levels of stripe rust. This is the second year in a row that we have had a substantial stripe rust epidemic and choosing resistant varieties is a cheap method of stripe rust management.

We have also been looking for Fusarium head blight (FHB or scab) in commercial fields and variety trials. For a second year in a row, FHB incidence and severity is extremely low statewide. In many fields we struggle to find even one symptomatic head. Fusarium head blight incidence in the far southwest part of the state is nearly undetectable and approaches about 1% incidence in fields in the north-central and northeastern portions of the state. I expect that DON (vomitoxin) levels will be relatively low in finished grain in Wisconsin, this season. The low level of FHB in winter wheat this season is likely due to the unseasonably hot, dry weather we had in early June, which coincided with anthesis in many wheat fields. This type of weather is not conducive for the fungus and likely resulted in very few successful infection events.

Other diseases have been extremely hard to find. We have seen some fields with low levels of Septoria/Stagonospora, but in general these epidemics will not limit yield to a significant extent. Powdery mildew can be found infrequently on a few plants in some fields. In the southern portion of the state, we were able to find some leaf rust just this week. The arrival of leaf rust is likely too late to affect yield this season. We have not observed any stem rust in our scouting trips to commercial fields or in variety trials.

This post originally appears on Damon Smith's blog at – http://fyi.uwex.edu/fieldcroppathology/2017/06/30/wisconsin-winter-wheat-disease-update-june-30-2017/
Video: Modifying a no-till drill for cover crop interseeding

Daniel H. Smith, Nutrient and Pest Management Program, University of Wisconsin-Madison

A new video from the Nutrient and Pest Management program details how to modify a no-till drill for cover crop interseeding. Smith and the crew at Lancaster Research Station are shown both in the field and in the shop. It is a short 2 minute video, however if you would like further information feel free to find contact on the IPCM website.
The best of all workshops! This year our crop & pest management workshop and diagnostic troubleshooting workshop have been combined into a single day. The day starts with 2 hours of multi-disciplinary agronomic topics and culminates with 6 separate diagnostic troubleshooting scenarios.

Tuesday – July 25, 2017
Lunch is provided at noon
Tiered fee: $90 before 7/15/17, $100 after 7/15/17
Location: Arlington Ag Research Station
CCA CEU’s: 5.0*

Pigweed Species Identification & Control – Mark Renz, Extension Weed Science Specialist
• Is it pigweed? Waterhemp? Some other Amaranth species?
• This session will provide you with the tools to positively identify these troublesome weeds and discuss control options while considering herbicide resistance and recent technologies

Spray Drift Mitigation – Dan Heider, UW Integrated Pest Management Specialist
• Rain followed by more rain. When the rain stops, the wind seems to start with few good spray windows between. Are you confidently spraying on target?
• Nozzles and drift control additives will be demonstrated so you can really see what’s happening behind the spray boom

Diagnostic Troubleshooting – UW Specialists from multiple disciplines
• Fine tune your crop diagnostic skills in a fun and interactive setting. Small groups will rotate through field problems with UW Specialists role playing as farmers. Through digging up plants, asking questions and consulting references participants will make a diagnosis of the problem being observed and a recommendation for correction. Each participant will experience 6 separate diagnostic scenarios

Schedule:
8:30 - 8:50 registration
8:50 - 9:00 introduction/orientation
9:00 - 11:00 agronomic topics 1-2
11:00 - 12:00 troubleshooting sessions 1-2
12:00 - 12:45 lunch (provided)
12:45 - 2:45 troubleshooting sessions 3-6

Workshops begin in the Public Events Facility of the Arlington Agricultural Research Station. Be aware that this is not a “traditional” field day. Training sessions are designed to be in-field and hands-on. Therefore we advise that you come prepared for all types of weather.

*CCA CEU’s: Continuing education units/categories are subject to change pending approval from the Certified Crop Advisor Program.

FAST and easy ONLINE registration by credit card at- https://www.patstore.wisc.edu/ipm/register.aspx

or if NOT using credit card online: Mail registration form below to Dan Heider, UW-IPM Program, 1575 Linden Drive, Madison, WI 53706

Name: ____________________________________________
Address: ____________________________________________
____________________________________________________
Affiliation: ________________________________
Daytime telephone: ________________________________

email: ___________________________________________

Diagnostic Training Center Workshop, July 25 ..... $90 / $100
($100 if registration received after July 15)

Checks payable to: University of Wisconsin-Extension

College of Agricultural & Life Sciences
University of Wisconsin-Madison
Palmer Amaranth

Annual broadleaf that germinates in April-August. Commonly found in agronomic and horticultural crops as well as highly disturbed areas.

**Leaves:** Diamond or spade shaped, 3-6 in long that alternate on the stem and have a small hair at the tip of the leaf. Petiole is longer than the length of the leaf blade on mature leaves. Leaves can also have a watermark but many plants lack this trait.

**Stem:** Typically 3-5 feet tall, but can grow > 6 ft. Lacks hair on the stems.

**Flowers:** Many small green flowers form 1-3 ft long inflorescences starting in July. Inflorescences can vary in branching, but lateral branches can be > 6 in long. Male and female flowers found on separate plants. Female seed heads are prickly to touch due to sharp bracts; male seed heads are soft as they do not contain the sharp bract.

**Similar Plants:** This plant is often confused with other common pigweeds, especially waterhemp and spiny amaranth. Spiny amaranth has a distinct spine below leaves. Waterhemp can be differentiated from Palmer by the petiole as it is shorter than its leaf blade unlike Palmer. For more information including a video see visit the [report-a-pigweed link](http://fyi.uwex.edu/wifdn/report-a-pigweed/) below.

**Herbicide Resistance:**
In Wisconsin resistance to glyphosate has been confirmed in 2 counties and resistance to HPPD and ALS inhibitors in one county. In nearby states much higher levels of resistance to these and other modes of actions of herbicides have been detected. Currently nearby states have Palmer populations resistant to multiple modes of action.

Questions or Comments: reportapigweed@gmail.com
http://fyi.uwex.edu/wifdn/report-a-pigweed/
Tall/Common Waterhemp

Annual broadleaf that germinates April – August. Commonly found in agronomic and horticultural crops as well as highly disturbed areas.

**Leaves:** Lance or spearhead shaped, 3-6 in long that alternate on the stem. Petiole is shorter than the length of the leaf blade.

**Stem:** Typically, 4-5 ft tall, but can grow> 10 ft. Lacks hair on the stem.

**Flowers:** Many small green flowers form an inflorescence in July-September. While the terminal inflorescence can be > 1 ft long, many wiry lateral branches occur throughout the inflorescence. Male and female flowers found on separate plants, and can on occasion turn pink – red as they mature.

**Similar Plants:** This plant is often confused with other common pigweeds, especially palmer and spiny amaranth as they also have no hairs on stems. Palmer amaranth can be differentiated by the petiole as it is longer than its leaf blade unlike Waterhemp. Spiny amaranth has distinct spines below leaves. For more information including a video see visit the report-a-pigweed link below.

**Herbicide Resistance:**
In Wisconsin resistance to glyphosate has been confirmed in 16 counties and resistance to glyphosate and PPO-inhibitors in one county. It is also believed that many populations are also resistant to ALS herbicides but few have been tested. In nearby states much higher levels of resistance to these and other modes of actions of herbicides have been detected. Currently nearby states have Waterhemp populations resistant to five different herbicide modes of action.

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